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ABSTRACT

The purpose of this study was to clarify the age of emergence of differential attributions for the success and failure of girls and boys on feminine and masculine tasks. Subjects were 192 children attending either preschool or third grade. From this group 6 boys and 6 girls from each grade level were randomly assigned to one of eight conditions which were produced by varying three parameters: sex of performer (male or female), sex of task (feminine or masculine), and outcome (success or failure). Each child was then shown a drawing appropriate to his/her experimental condition which depicted a young girl or boy either successfully or unsuccessfully completing a traditionally labeled masculine task (building a "go-cart") or a traditionally feminine task (baking a cake). The child's explanation of the outcome was assessed by presenting six paired-comparison choices representing the six possible combinations of the Weiner et al (1971) dimensions of task difficulty (luck, ability and effort). Expected outcomes of failing at a sex-inappropriate task or succeeding at a sex-appropriate one were more often attributed by third graders to the stable factors of task difficulty and ability than to the unstable factor of luck. These findings support the earlier study's hypothesis that expected outcomes will increase attributions to stable factors. Preschoolers did not show the attributional patterns originally predicted. (Author/MP)

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Children's Causal Attributions of Female and Male Success and Failure

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Running head: Children's Causal Attributions of Success and Failure

Abstract

Male and female preschoolers and third graders were asked to explain the success and failure of girls and boys on feminine and masculine tasks by choosing among four causal factors: ability, effort, task difficulty, and luck. The expected outcomes of failing at a sex-inappropriate task or succeeding at a sex-appropriate one were more often attributed by third graders to the stable factors of task difficulty and ability than to the unstable factor of luck. These findings support the Weiner et al (1971) hypothesis that expected outcomes will increase attributions to stable factors. Preschoolers did not show the attributional patterns predicted by the Weiner et al (1971) model.

Children's Causal Attributions of Female and Male Success and Failure

Many researchers have found that achievements of females often are evaluated less highly than the identical achievements of males (e.g., Etaugh and Rose, 1975; Goldberg, 1968; Mischel, 1974; Piacente, Penner, Hawkins, & Cohen, 1974). This finding has been examined within the context of attribution theory (e.g., Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971), which asserts that attributions for performance outcomes vary along two dimensions: internal-external, and stable-unstable. Weiner et al (1971) propose that expected outcomes will be attributed to stable factors such as ability (internal) or task difficulty (external), while unexpected outcomes will be attributed to unstable factors such as effort (internal) or luck (external).

Since success on a task appropriate to one's sex or failure on a task appropriate to the opposite sex are expected outcomes, they should be attributed to stable factors. Similarly, failure on a sex-appropriate task or success on a sex-inappropriate task are unexpected outcomes which should be ascribed to unstable factors. This predicted attributional pattern has been found not only in adults (e.g., Deaux & Emswiller, 1974; Feldman-Summers & Kiesler, 1974) but in children as young as kindergarten age (Etaugh & Brown, 1975; Etaugh & Hadley, 1977; Bond, Note 1; Bond-Dunn, Deming, &

Goodman, Note 2).

How early does this attributional pattern emerge? Preschoolers did not show it in the only study of this age group (Bond, Note 1). Methodological flaws render Bond's results inconclusive, however. For one thing,the four causal explanations of task difficulty, effort, luck,and ability always were presented in that order. This is a highly questionable procedure given the response biases frequently shown by preschool children (Ellis, Girardeau, & Pryer, 1962; Jeffrey & Cohen, 1965; Schusterman, 1963.) A second problem is that all four alternatives were presented at the same time. As Bond herself notes, the youngest children may have had difficulty retaining the four alternatives simultaneously. That one or both of these problems occurred is suggested by the fact that the last two alternatives presented were chosen at a considerably higher frequency by preschoolers than by older children. Still another problem with Bond's study is that each subject served in all eight conditions of sex of performer, sex of task, and outcome. The problem of "carryover" effects in this type of design has been discussed extensively (see Neale & Liebert, 1980).

In order to clarify the age of emergence of differential attributions for the success and failure of females and males, preschoolers and third graders were tested using procedures which are free of the problems mentioned above. These pro-

cedures, which have been employed in previous attribution research with young children (Etaugh & Hadley, 1977; Falbo, 1975), included running each subject in only one condition, presenting only two instead of four alternatives at a time, and randomizing the order of presentation of alternatives.

Method

Subjects

Subjects were 192 white, middle-class children attending either nursery school (mean age = 4.58 years) or third grade (mean age = 8.46 years). Six girls and six boys at each grade level were assigned randomly to one of eight conditions which were produced by varying three parameters: sex of performer (male or female), sex of task (feminine or masculine), and outcome (success or failure). Two female experimenters tested equal numbers of children in each condition.

Procedure

Prior to the study, the experimenters spent some time establishing rapport with each preschool class. Children in both grade levels were tested individually.

A set of simple "warm-up" questions were given to each child in order to illustrate that when choosing between two alternatives, the correct choice would appear in either the first or last position (see Etaugh & Hadley, 1977). Each child then was shown a drawing appropriate to his or her condition which depicted a young girl or boy either success-

fully or unsuccessfully completing either a masculine task (building a "go-cart") or a feminine task (baking a cake). The experimenter read a brief description of the task and the outcome. The child's explanation of the outcome was assessed by presenting six paired-comparison choices representing the six possible combinations of the Weiner et al (1971) dimensions of task difficulty, luck, ability, and effort. For example, when the female was described as succeeding at the masculine task, the experimenter asked:

> "Why do you think Lisa made such a great go-cart?
>
> ... Because she tried hard, or because she was lucky?
>
> ... Because she was lucky, or because she was good at building things?
>
> ... Because she was good at building things, or because it was an easy go-cart to make?
>
> ... Because it was any easy go-cart to make, or because she was lucky?
>
> ... Because she tried hard, or because she was good at building things?
>
> ... Because she tried hard, or because it was an easy go-cart to make?"

The "why" question was repeated before each pair of choices was presented. The order of choices within each question and the order of the six questions were randomly determined for each subject.

Results

Following procedures used previously (Etaugh & Hadley, 1977; Falbo, 1975), the attributional choices were scored as the number of times each attribution was chosen when presented in paired-comparison form. These scores were analyzed by means of a 2 x 2 x 2 x 2 x 2 x 4 (sex of subject x grade level x sex of performer x outcome of task x sex-typing of task x attribution) analysis of variance with repeated measures on the attribution factor. Significant main effects and interactions involving three or more means were further analyzed by Tukey's HSD test (Kirk, 1968).

The main effect of attribution was significant, $F(3, 498) = 28.48$, $p < .001$. Task difficulty ($\bar{X} = 1.76$), ability ($\bar{X} = 1.70$), and effort ($\bar{X} = 1.59$) were chosen equally often, and more frequently than was luck ($\bar{X} = .95$). A significant grade level x attribution interaction, $F(3, 498) = 13.68$ $p < .001$, indicates that this pattern of responding was most pronounced for the older children. While young children also chose task difficulty most often ($\bar{X} = 1.74$) and luck least often ($\bar{X} = 1.27$), they chose ability ($\bar{X} = 1.54$) and effort ($\bar{X} = 1.40$) less often and chose luck more often than did older children. (Older children's $\bar{X}$s = 1.85, 1.78, and .58 for ability, effort, and luck, respectively).

These differences between older and younger children are further explicated in a significant grade level x sex of sub-

ject x sex of performer x attribution interaction, $F(3, 498) = 2.89$, $p < .05$. Older boys and girls used ability, effort, and task difficulty equally often to evaluate female and male performance, and used luck infrequently for both. Among younger children, however, girls explained the performance of males (but not females) more often by ability ($\bar{X} = 1.79$) than by luck ($\bar{X} = 1.04$), whereas boys explained the performance of males (but not females) more often by task difficulty ($\bar{X} = 1.96$) than by ability ($\bar{X} = 1.17$).

Of greatest theoretical interest was the interaction among all six variables, $F(3, 498) = 6.01$, $p < .001$. (See Tables 1 and 2 for means.) Younger children's attributions did not vary

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Insert Tables 1 and 2 about here

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consistently as a function of sex of performer, sex-typing of task, and outcome. Older children, on the other hand, responded in a manner somewhat more consistent with attribution theory. They more often used the stable factors of ability and task difficulty than the unstable factor of luck to explain the expected outcomes of success on a sex-appropriate task or failure on a sex-inappropriate task. More specifically, older girls and boys more often attributed the expected outcome of female failure on the masculine task to task difficulty ($\bar{X}$s = 2.33 and 2.50 for girls and boys, respectively) than to luck ($\bar{X}$s = .50 for both girls and boys). Further, older boys more often attributed the expected outcome of male failure on the

feminine task to lack of ability ($\bar{X}$ = 2.67) than to luck ($\bar{X}$ = .33). In addition, older girls attributed the expected outcome of male success on a masculine task to ability ($\bar{X}$ = 2.00) and effort ($\bar{X}$ = 2.00) more than to luck ($\bar{X}$ = .33). Older boys explained this outcome by choosing ability ($\bar{X}$ = 1.83), effort ($\bar{X}$ = 2.17), and task difficulty ($\bar{X}$ = 1.83) more than luck ($\bar{X}$ = .17). Direct comparisons between the two grade levels provide further evidence that older children were more likely than younger ones to respond in accordance with attribution theory. Older boys used luck less often than younger boys to explain the expected outcomes of male success on a masculine task ($\bar{X}$ = .17 and 1.67 for older and younger boys, respectively), and male failure on a feminine task ($\bar{X}$s = .33 and 1.67 for older and younger boys, respectively). Older boys also chose lack of ability ($\bar{X}$ = 2.67) more than did younger boys ($\bar{X}$ = 1.33) to explain male failure on the feminine task. To account for the unexpected outcome of female success on a masculine task, older boys more often selected effort ($\bar{X}$ = 2.33) than did younger boys ($\bar{X}$ = 1.17). Finally, when explaining the unexpected outcome of female failure on a feminine task, older girls chose luck ($\bar{X}$ = .83) less often than did younger girls ($\bar{X}$ = 2.00).

Discussion

Consistent with previous findings for children of elementary school age (Etaugh & Brown, 1975; Etaugh & Hadley, 1977; Bond, Note 1; Bond-Dunn, et al, Note 2), third graders offered explanations of success and failure which were influ-

enced both by the sex of the performer and the sex-typing of the task. More specifically, the expected outcomes of failing at a sex-inappropriate task or succeeding at a sex-appropriate one were more often attributed to the stable factors of task difficulty and ability than to the unstable factor of luck. These findings lend limited support to the Weiner et al (1971) hypothesis that expected outcomes will increase attributions to stable factors. It should be noted, however, that the predicted pattern of results was evident only for expected (but not unexpected) outcomes and only for external (but not internal) attributions. That is, expected outcomes increased the probability of task difficulty being selected over luck, but did not increase the choice of ability over effort. For the older children, in other words, it was only those comparisons that involved luck as the unstable cause that supported the predictions, and only a limited subset of those.

Preschool children did not exhibit the attributional patterns predicted by the Weiner et al (1971) model, in line with Bond's (Note 1) results. The evaluations of preschoolers were affected to some extent by the sex of the performer, however. Regardless of the outcome or the sex-typing of the task, preschool girls more often attribted male performance to ability than to luck, whereas preschool boys more frequently attributed male performance to task difficulty than to ability. Female performance was attributed equally to all four factors

by both sexes.

Why do preschoolers fail to show the same causal explanations of male and female performance displayed by older children and adults? One possible explanation is that preschoolers do not yet possess sufficient knowledge of sex-role stereotypes to formulate differential performance expectancies and/or causal attributions of male and female performance. A second possibility is that adequate knowledge of sex-role stereotypes is present, but that the ability to translate these stereotypes first into performance expectancies and then into attributions either is deficient, or occurs in a manner different from that employed by older children and adults. The difficulty with the first of these explanations, namely that sex-role stereotypes are insufficiently developed, is that children as young as two to three years of age possess substantial knowledge of at least some aspects of sex-role stereotypes (e.g., Flerx, Fidler, & Rogers, 1976; Kuhn, Nash, & Brucken, 1978; Thompson, 1975; Weinraub & Leite, Note 3). The sex-typed activities of cooking and building used both in the present study and in the study by Bond (Note 1) are identified as feminine and masculine, respectively, by 2- and 3-year old girls and boys (Kuhn et al, 1978; Weinraub & Leite, Note 3). It is possible however, that the knowledge of sex-stereotypes possessed by preschoolers simply is not fully enough developed to permit formation of sex-differentiated causal

attributions. Such knowledge is far from complete in the preschool period and continues to increase during the early elementary school years (e.g., Best, Williams, Cloud, Davis, Robertson, Edwards, Giles, & Fowles, 1977; Williams, Bennett & Best, 1975).

The second explanation offered for the failure of preschoolers to show the attributional patterns of older children is that younger children may indeed possess knowledge of sex-role stereotypes, but are deficient in translating this knowledge into performance expectancies and/or causal attributions. This explanation is based on the mediational deficiency hypothesis (Kendler & Kendler, 1962; Reese, 1962), which states that young children do not regulate their overt behaviors verbally to the extent that older children do. In one type of hypothetical mediational deficiency, entitled control deficiency (Kendler, 1972), the younger child produces verbal mediators just as the older child does, but these representational responses fail to control the younger child's behaviors. This type of deficiency declines rapidly after kindergarten age (Kendler, 1972). The existence of some form of control deficiency could account for the failure of preschoolers to show the sex-differentiated attributions displayed by older children. More specifically, the translation of sex-stereotypes into causal attributions may be conceptualized as a two-step process. In the first step, stereotypes would influence the

formation of outcome expectancies; in the second, expectancies would lead to the development of causal attributions. Young children may be limited in their ability to carry out either or both of these steps. Evidence that preschool children may in fact be deficient in the first of these steps was obtained by Parsons and Ruble (1977), who found that preschoolers did not translate their own successes and failures into expectancies for their own performance. It seems likely, then, that they also would not translate general stereotypes into performance expectations. This suggestion, however, remains to be tested.

Reference Notes

1. Bond, L.A. The development of causal attributions for success and failure of males and females. Paper presented at the meeting of the Society for Research in Child Development, San Francisco, March 1979.

2. Bond-Dunn, L.A., Deming, S., & Goodman, J. The development of attributions concerning male and female performance on sex stereotypic tasks. Paper presented at the meeting of the Eastern Psychological Association, Washington, D.C., March 1978.

3. Weinraub, M., & Leite, J. Knowledge of sex-role stereotypes and sex-typed toy preference in two-year-old children. Paper presented at the meeting of the Eastern Psychological Association, Boston, April 1977.

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Footnote

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Table 1

Mean Number of Times Each Attribution was Chosen by Preschool Children

Sex of Subj.	Attribution	Male Performer				Female Performer			
		Feminine Task		Masculine Task		Feminine Task		Masculine Task	
		Success	Failure	Success	Failure	Success	Failure	Success	Failure
Fem.	Abil.	2.17	1.67	1.67	1.67	1.83	1.33	1.67	1.50
	Eff.	1.00	1.33	1.67	1.83	1.17	1.33	1.83	1.17
	Task	1.17	2.00	1.67	2.00	1.50	1.33	1.83	1.83
	Luck	1.67	1.00	1.00	.50	1.50	2.00	.67	1.50
Male	Abil.	1.50	1.33	1.00	.83	1.67	1.50	1.67	1.67
	Eff.	1.33	1.00	1.50	1.50	1.50	1.50	1.17	1.50
	Task	1.83	2.00	1.83	2.17	1.83	1.67	1.67	1.50
	Luck	1.33	1.67	1.67	1.50	1.00	1.33	1.50	1.33

Table 2

Mean Number of Times Each Attribution was Chosen by Third Grade Children

Sex of Subj.	Attribution	Male Performer				Female Performer			
		Feminine Task		Masculine Task		Feminine Task		Masculine Task	
		Success	Failure	Success	Failure	Success	Failure	Success	Failure
Fem	Abil.	1.33	2.00	2.00	2.00	1.83	1.17	2.50	1.67
	Eff.	2.00	1.17	2.00	1.67	2.17	2.00	1.83	1.50
	Task	2.00	1.83	1.67	1.67	1.33	2.00	1.17	2.33
	Luck	.83	1.00	.33	.67	.67	.83	.50	.50
Male	Abil.	2.00	2.67	1.83	1.67	1.67	1.83	1.67	1.83
	Eff.	2.33	1.83	2.17	1.50	1.67	1.17	2.33	1.17
	Task	1.17	1.17	1.83	2.17	1.83	2.50	1.33	2.50
	Luck	.50	.33	.17	.67	.83	.50	.67	.50